

ENHANCEMENT OF THE TOUR GUIDE WEBPAGE FOR KINTA TOUR
GUIDE WEBPAGE BASED ON HUMAN COMPUTER INTERACTION (HCI)
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ABSTRACT

Webpages are the pages which are available online and this is the site where Internet users can get a wide range of information from. Webpages can be divided into various types such as advertisements, articles, guidelines and so on. Webpage for tour guide is one of the significant and useful pages available online. Different types of webpages have different goals and information. However, there are many existing webpages that require enhancement to be more convenience, informative and attractive to the Internet users. This project is done in order to enhance the tourism webpage of Kinta Tour Guide Webpage. The Heuristic Usability rules of Human Computer Interaction (HCI) are utilized for the Kinta Tour Guide webpage enhancement. The effectiveness of the project is verified by bringing out random survey with questionnaire. It is the Research Methodology process. Then, it has been identified that the Kinta Tour Guide webpage is lack of information, creativity and so on. The existing system of the webpage has been surveyed by 30 respondents and their comments from the questionnaire are considered seriously to be applied in order to enhance the webpage based on the Heuristic Rules. Most of the respondents are unsatisfied with the unattractive design and boring contents of the existing system. There are three main Heuristic Usability Rules available which include 8 Golden Rules, Norman's Principle and the Jacob Nielsen's Rules. In the project of Enhancement of the Tour Guide Webpage for Kinta Tour Guide Webpage Based on Human Computer Interaction (HCI) Elements by Jacob Nielsen, the most suitable rule to be applied is the Jacob Nielsen's Heuristic Rules. Hence with the suitable Heuristic rules and useful comments from the survey, the enhanced webpage can fulfil all of the requirements from the viewers.

ABSTRAK

Laman web adalah halaman yang boleh didapati dalam Internet dan ia adalah tempat di mana pengguna Internet boleh mendapatkan pelbagai maklumat. Laman web boleh dibahagikan kepada pelbagai jenis seperti halaman untuk iklan, artikel, garis panduan dan sebagainya. Laman web untuk panduan pelancong adalah salah satu laman web yang penting dan berguna pengguna Internet. Setiap jenis laman web mempunyai matlamat yang berbeza dan maklumat. Walau bagaimanapun, terdapat banyak laman web yang sedia ada yang masih memerlukan pengubahsuaian dan peningkatan untuk menjadi lebih mesra pengguna, bermaklumat dan menarik kepada pengguna Internet. Projek ini dilaksanakan dalam usaha untuk meningkatkan laman web panduan Pelancongan Kinta. Kaedah-kaedah kebolehgunaan Interaksi Heuristik Manusia dan Komputer (HCI) digunakan untuk pembangunan laman web Tour Panduan Kinta. Keberkesanan projek ini dibuktikan dengan pelaksanaan kajian rawak serta soal selidik. Ia adalah satu proses Kaedah Penyelidikan. Selepas itu dengan keputusan dari kajian yang telah dilaksanakan, ia telah dikenal pasti bahawa laman web Panduan Kinta Tour kekurangan maklumat, kreativiti dan sebagainya. Sistem laman web yang sedia ada telah ditinjau oleh 30 orang responden dan komen mereka daripada soal selidik adalah penting kerana akan digunakan sebagai idea untuk meningkatkan laman web berdasarkan Kaedah-Kaedah Heuristik. Kebanyakan responden tidak berpuas hati dengan reka bentuk yang tidak menarik dan isi kandungan sistem sedia ada yang membosankan. Terdapat tiga peraturan utama dalam Kebolehgunaan Heuristik iaitu 8 Peraturan Emas, Prinsip Norman dan Peraturan Jakob Nielsen. Dalam projek Peningkatan Laman Web Panduan Pelancongan Kinta. Berdasarkan Elemen HCI, peraturan yang paling sesuai digunakan ialah Peraturan Heuristik Jakob Nielsen. Oleh itu dengan kaedah-kaedah Heuristik dan komen yang berguna daripada kajian, laman web yang dipertingkatkan dapat memenuhi semua keperluan pengguna laman web.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	ABSTRACT	vii
	TABLE OF CONTENTS	ix
	LIST OF TABLES	xiii
	LIST OF FIGURES	xiv
	LIST OF APPENDICES	xix
1	INTRODUCTION	1
	1.1 Introduction	1 - 5
	1.2 Problem Statement	5
	1.3 Objectives	5
	1.4 Scopes	5 - 6
	1.5 Deliverables	6
	1.6 Thesis Organization	6
2	LITERATURE REVIEW	7
	2.1 Survey on the existing system of Ipoh Tourism webpage	7 - 12
	2.2 Systems that similar with the existing Kinta Tour Guide Webpage	13
	2.2.1 Survey on the existing system that similar with the existing Kinta Tour Guide Webpage	13 - 18
	2.2.2 Survey on the existing system that similar with the existing Kinta Tour Guide Webpage	18 - 19
	2.2.3 Survey on the existing system that similar with the existing Kinta Tour Guide Webpage	20 - 23
	2.2.4 Survey on the existing system that similar	23 - 25

with the existing Kinta Tour Guide Webpage	
2.2.5 Survey on the existing system that similar with the existing Kinta Tour Guide Webpage	25 - 29
2.3 Heuristic Evaluation of Human Computer	29 - 30
2.3.1 8 Golden Rules of Interface Design	30
2.3.1.1 Strive for consistency	30 - 31
2.3.1.2 Enable frequent users to use shortcuts	31
2.3.1.3 Offer informative feedback	31
2.3.1.4 Walk uses through more complicated tasks	31 - 32
2.3.1.5 Offer simple error handling	32
2.3.1.6 Permit easy reversal of actions	32
2.3.1.7 Make the user feel in control	32
2.3.1.8 Keep it simple	32
2.3.2 Ten Usability Heuristics	33
2.3.2.1 Visibility of system status	34
2.3.2.2 Match between system and the real world	34 - 35
2.3.2.3 User control and freedom	35
2.3.2.4 Consistency and standards	36
2.3.2.5 Error prevention	36
2.3.2.6 Recognition rather than recall	36
2.3.2.7 Flexibility and efficiency of use	37
2.3.2.8 Aesthetic and minimalist design	37
2.3.2.9 Help users recognize, diagnose, and recover from errors	38
2.3.2.10 Help and documentation	38
2.3.2.11 Updated Findings	38
2.3.3 Norman's Principle	39
2.3.3.1 Visibility and Feedback	39
2.3.3.2 Natural Mapping	39
2.3.3.3 Constraints	39 - 41
2.3.3.4 Design for Error	41 - 43
2.3.3.5 Consistency	55
2.3.4 Summary of three heuristic evaluations of Human Computer Interaction	44

	2.4 Proposed System	44 - 46
	2.5 Conclusion	46
3	METHODOLOGY	47
	3.1 The Justification of Research Methodology Process	47 - 48
	3.1.1 Planning Phase	48
	3.1.2. Analysis Phase	48
	3.1.3. Implementation Phase	48
	3.1.4. User Design	48
	3.1.5. Testing	49
	3.2 Implementation of Research Methodology Process in the Kinta Tour Guide Webpage	50
	3.2.1 Planning Phase	50 - 59
	3.2.2 Analysis Phase	60
	3.2.3 Analyze of the Design Rules for Implementation Phase	60
	3.2.3.1 Software and Hardware Tools	61
	3.2.3.2 Hardware	61
	3.2.3.3 Software	62
	3.2.4 User Design Phase	63 - 65
	3.2.5 Testing Phase	66
	3.3 Research on Current Situation	66
4	IMPLEMENTATION	67
	4.1 Implementation	67
	4.1.1 Visibility of System Status	67 - 73
	4.1.2 Match between System and The Real World	73 - 75
	4.1.3 User Control and Freedom	75 - 80
	4.1.4 Error Prevention & Help Users Recognize, Diagnose, and Recover From Error (Combined)	80 - 83
	4.1.5 Recognition Rather Than Recall	83 - 84
	4.1.6 Aesthetic and Minimalist Design	85 - 88
	4.1.7 Consistency and Standards	88 - 92
	4.2 Testing	93

5	RESULT	94
	5.1 Analysis of Data Collection based on Survey Questions	94 - 96
	5.2 Analysis of Survey Questions Result	97 - 117
6	CONTRIBUTIONS, LIMITATION, FUTURE RESEARCH & CONCLUSION	118
	6.1 Contributions	118 - 119
	6.2 Limitation	119 - 120
	6.3 Future Research	120 - 122
	6.4 Conclusion	109
7	REFERENCES	123 - 126
8	APPENDICES	127
	A Gantt Chart	128
	B Survey Questions 1	129 - 131
	C Survey Questions 2	132 - 34

LIST OF TABLES

TABLE NO.	TITLE	PAGE
1.1.1	Ten Heuristics of usability	3 - 4
3.2.3.2.1	Hardware Tools	61
3.2.3.3.1	Software Tools	62
5.1.1	Data Collection Based On the Survey Questions of Existing Website	95
5.1.2	Data Collection Based On the Survey Questions of Enhanced Kinta Tour Guide Webpage	96

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
2.1.1	Ipoh Tourism Banner	8
2.1.2	Ipoh Tourism Destination	9
2.1.3	Ipoh Tourism Travel Suggestion	9
2.1.4	Ipoh Tourism Section's List	10
2.1.5	Ipoh Tourism Introduction	11
2.1.6	Ipoh Tourism Cuisine	12
2.1.7	Ipoh Tourism Sponsor's Page	12
2.2.1.1	Ipoh Tourism Banner	13
2.2.1.2	Ipoh Tourism Selection of Language	14
2.2.1.3	Ipoh Tourism Slide Photos	14
2.2.1.4	Ipoh Tourism Introduction	15
2.2.1.5	Ipoh Tourism Interesting Getaways	16
2.2.1.6	Ipoh Tourism Travel Assistant	17
2.2.1.7	Ipoh Tourism Share's Link	17
2.2.1.8	Ipoh Tourism Packages	18
2.2.2.1	Ipoh Tourism Introduction	19
2.2.2.2	Ipoh Tourism Interesting Getaways	19
2.2.3.1	Ipoh Tourism Heading	20
2.2.3.2	Ipoh Tourism Slide Show	21
2.2.3.3	Ipoh Tourism Interesting Getaways	21
2.2.3.4	Ipoh Tourism Rating	22
2.2.3.5	Ipoh Tourism Forum and Tourist Guidance	23
2.2.4.1	Ipoh Tourism Heading	24
2.2.4.2	Ipoh Tourism Interesting Getaways	24

2.2.4.3	Ipoh Tourism Special Links	25
2.2.5.1	Ipoh Tourism Heading	26
2.2.5.2	Ipoh Tourism Photos	26
2.2.5.3	Ipoh Tourism Forum	27
2.2.5.4	Ipoh Tourism Travel Services	28
2.2.5.5	Ipoh Tourism Country Information	28
2.2.5.6	Ipoh Tourism Viewers' Information	29
2.2.5.7	Ipoh Tourism Map	29
2.3.2.1	Ipoh Tourism Header	34
2.3.2.2	Ipoh Tourism Content	35
2.3.2.3	Ipoh Tourism Content	35
2.3.2.6	Introduction of Ipoh Tourism	36
2.3.2.8	Ipoh Tourism Contents	37
3.1.1	Research Methodology Process Flowchart Diagram	49
3.2.1.1	Header of Tourism Penang Website	51
3.2.1.2	Malaysia Tourism Contents	52
3.2.1.3	Blog Design Webpage Contents	53
3.2.1.4	Options of the Microsoft Word header	53
3.2.1.5	Options of Microsoft Power Point header	54
3.2.1.6	Error Message of the 'Leave Comment' section	55
3.2.1.7	Highlighted Option of Action	56
3.2.1.8	Options of selected action	57
3.2.1.9	Information text layout	57
3.2.1.10	Language changed of the webpage	58
3.2.1.11	Help Function	59
3.2.4.1	User Interface Flow Diagram of Enhancement of the Tour Guide Webpage based on HCI Elements for Kinta Tour Guide Webpage	65
4.1.1.1	Banner of Kinta Tour Guide Website	67
4.1.1.2	Perak Flag	68
4.1.1.3	Coding Implementation for Kinta Tour Guide Webpage Banner	68
4.1.1.4	Logo and Banner of Kinta Tour Guide website	69
4.1.1.5	Footer of Kinta Tour Guide Website	70

4.1.1.6	Coding Implementation for Logo, Banner and Main menu of Kinta Tour Guide Webpage	70
4.1.1.7	Coding Implementation for Footer of Kinta Tour Guide Webpage	71
4.1.1.8	Header of Webpage	72
4.1.1.9	Header of Webpage	72
4.1.1.10	Coding Implementation of a Header's Topic Main Menu's Topic	73
4.1.2.1	Contents of 'About Ipoh' Webpage	74
4.1.2.2	Menu's of Website Information	74
4.1.2.3	Coding Implementation of Main Menu	74
4.1.2.4	Coding Implementation of Webpage's Contents	75
4.1.3.1	Original Position of Main Menu	76
4.1.3.2	Bottom Position of Main Menu	76
4.1.3.3	Coding Implementation of Main Menu of the Webpage	77
4.1.3.4	Thumbnail Photos Viewer	77
4.1.3.5	Photo Viewer with 'Next' Button Function	78
4.1.3.6	Photo Viewer with 'Previous' Button Function	78
4.1.3.7	Original Font Size of Contents	79
4.1.3.8	Increased Font Size of Contents	79
4.1.3.9	Decrease Font Size of Contents	79
4.1.3.10	Font Size Adjustment Codes Function	80
4.1.4.1	Users' Input Information	81
4.1.4.2	Reset Button Function	81
4.1.4.3	Coding Implementation of 'Reset' Button Function	82
4.1.4.4	Pop Out Error Message	82
4.1.4.5	Coding Implementation of Pop Out Message Box	83
4.1.5.1	Hotel's Photo Image	84
4.1.5.2	Coding Implementation of Photos Displayed	84
4.1.6.1	Photo of Images As Contents' Representative	85
4.1.6.2	Admin Login Hyperlink	86
4.1.6.3	Coding Implementation of 'Admin Login' Hyperlink Navigation	86

4.1.6.4	Admin Login Page	86
4.1.6.5	Coding Implementation for ‘Admin Login’ Webpage	87
4.1.6.6	Information Database System (Admin Page)	87
4.1.6.7	Registration Form	88
4.1.7.1	Food To Eat Webpage’s Contents	89
4.1.7.2	Place To Stay Webpage’s Contents	89
4.1.7.3	Place To Go Webpage’s Font-Size Contents	90
4.1.7.4	Contact Us Topic’s Header	90
4.1.7.5	Original Selected Light Yellow Colour	91
4.1.7.6	Bright Blue Colour	92
4.1.7.7	Walnut Colour	92
5.1.1	Graph Bar of Existing Website before Enhancement	95
5.1.2	Graph Bar Kinta Tour Guide Webpage after Enhancement	96
5.2.1	Percentage shown based on question number 1	98
5.2.2	Banner of the Existing Tour Guide Webpage	98
5.2.3	Banner of the Enhanced Kinta Tour Guide Webpage	98
5.2.4	Percentage shown based on question number 2	100
5.2.5	Language Contents of the Existing Tour Guide Website	100
5.2.6	Simple Language Used of Contents of the Kinta Tour Guide Webpage	101
5.2.7	Percentage shown based on question number 3	102
5.2.8	Arrow Icon as Hyperlink ‘Back’ Function of the Existing Tour Guide Website	102
5.3.9	‘Next’ Button of the Enhanced Kinta Tour Guide Webpage	103
5.2.10	Percentage shown based on question number 4	104
5.2.11	Hyperlink Navigations Menu of the Existing Tour Guide Website	104
5.1.12	Hyperlink Navigation Main Menu of the Enhanced Kinta Tour Guide Webpage	105
5.2.13	Percentage shown based on question number 5	106
5.2.14	Pop Out Error Message Box of the Enhanced Kinta Tour Guide Webpage	107

5.2.15	Percentage shown based on question number 6	108
5.2.16	Accommodation Contents of the Existing Tour Guide Website	108
5.2.17	Few Sentences of Contents of the Enhanced Kinta Tour Guide Webpage	109
5.2.18	Percentage shown based on question number 7	110
5.2.19	Font Size Adjustment for Contents of the Enhanced Kinta Tour Guide Webpage	110
5.2.20	Percentage shown based on question number 8	111
5.2.21	Background Colour of the Existing Tour Guide Website	112
5.2.22	Background Colour of the Enhanced Kinta Guide Webpage	112
5.2.23	Percentage shown based on question number 9	104
5.2.24	Only a Piece of Photo Displayed to Represent Contents of the Existing Tour Guide Webpage	114
5.2.25	Photo Displayed of ‘Perak Tong Temple’ of the Enhanced Kinta Tour Guide Webpage	114
5.2.26	Percentage shown based on question number 10	115
5.2.27	Layout Design of the Existing Tour Guide Website	116
5.2.28	Webpage’s Layout Design of the Enhanced Kinta Tour Guide Webpage	116

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	Gantt Chart	128
B	Survey Questions 1	129 - 131
C	Survey Questions 2	132 – 134
D	Result of Survey Question 1 (Before Enhancement)	135
E	Result of Survey Question 2 (After Enhancement)	136

CHAPTER I

INTRODUCTION

This chapter briefly discuss on the overview of this research. It contains six sections. The first section is introduction; follow by the problem statement. Next are the objectives where the project's goal is determined. After that are the scopes of the system, deliverables of the system and lastly is the thesis organization which briefly describes the structure of this thesis.

1.1 Background

Kinta strict is one of the ten administrative districts of Perak, Malaysia, and it is divided into two major councils which are Ipoh City Council (Majlis Bandaraya Ipoh), based in Ipoh, the state capital of Perak and West Kinta District Council (Majlis Daerah Kinta Barat), based in the town of Batu Gajah [1]. Kinta is one of the most congested areas in Perak. The majority of the Kinta lived in the north, the region about the capital of Perak, Ipoh [2]. Kinta Nature Park is a legacy of Perak's tin mining heritage. The tin-mining boom times in Perak came to an end in the 1980s with the crash of the tin market and the depletion of tin deposits. By the 1990s, the tin industry had collapsed, affecting some 70,000 hectares in Kinta Valley alone and leaving extensive tracts of idle land consisting of barren tailings sand and hundreds of mining pools [3].

Ipoh is the state capital of Perak, on the west coast of peninsular Malaysia [4]. Although it was a rich town, it was not the original administrative centre of Perak. It

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was not also the British, but the Japanese that provided the turning point for Ipoh. During their occupation of Malaya in 1941, the Japanese Imperial Army transferred all administrative concerns from Batu Gajah and Taiping to Ipoh. The British actually endorsed this arrangement when they returned to power, and continued to retain Ipoh as Perak's administrative centre [5]. The name Ipoh is derived from a local tree, 'Pohon Epu' or now more commonly known as 'Pokok Ipoh'. The sap of this plant is poisonous and was used by 'Orang Asli' (Indigenous Peoples in Malay) to coat the tips of the darts of their blowpipes for hunting purpose. The Cantonese name for Ipoh derives the word 'Yee Bow' and in Mandarin 'Yi Bao' (Chinese: 怡保) which mean Found Treasure, the name was after the Cantonese 'Hoi San Clan' - the first batch of Chinese Labour that move to the area for tin mining where then build a small town for F&B, medical, grocery & hardware trading, bringing Ipoh a huge boost in economy and population. Among the local Chinese, Ipoh as known as 'Paloh' (Chinese: 霸箩) (mining pump in Malay), name after the gigantic mining pump used for early tin ore extraction. Nowadays, 'Paloh' refers to the Old Town area previously known as 'Kampung Paloh' (Paloh Village in Malay) [6]. The Perak government wants to turn the "Old Town" part of Ipoh into a heritage attraction to draw domestic and foreign tourists. Today, Ipoh has developed significantly [7]. The Greentown area near the City Council is fast becoming an entertainment hotspot with the construction of the Greentown Business Centre [8]. The city of Ipoh houses some of the best limestone cave systems in Malaysia. The formation of these glistening stalactites and stalagmites took place over millions of years [9]. Ipoh is famous for its restaurants, which serve delicious local foods influenced by the high proportion (roughly 70 percent) of ethnic Chinese in its population of over 700,000 people [10].

In the era of science and technology, the usage of Internet is undeniable for its unlimited supply of information. The creation of website is a huge achievement for human kind. It provides us the ability to get and collect any information almost instantly from every part of the world by just a mere click. The websites is being updated time to time and many new sites are being created everyday. Therefore, a website being created should be as attractive as possible to get the attention of Internet users. Anyway, there are a lot of web pages which are unattractive and boring. For example, some of the pages in the Internet are full with words, dull

designed and lack of pictures presented. This will absolutely make the viewers feel boring and they will not hesitate to change for another webpage in no time. Hence, those are the web pages which have to be upgraded especially about tourisms. A website that introduces a tourism destination should be as creative as possible to curb the viewers' enthusiasms. An Internet user will be keen to surf the website page by page, word by word without getting bored. A good and attractive webpage also will not bring about frustrations to the viewers. On the other words, it should be attractive, simple as well as packed with useful information.

In order to enhance or upgrade a webpage, the theory of Ten Heuristic Rules is applied. This is the most-used usability heuristics for user interface design by Jacob Nielsen. He has developed the heuristics based on the cooperation with Rolf Molich in 1990. The final set of heuristics that are still used today is the one which has been released by Nielsen in 1994. The Table 1.1.1 shows the 10 Heuristics of usability by Jacob Nielsen.

Table 1.1.1: Ten Heuristics of usability

Heuristic Rules	Usability
1. Visibility of system status	1. Keep users informed about what is going on through appropriate feedback within reasonable time
2. Match between system and the real world	2. Speak users' language with words, phases and concepts familiar to the user, rather than system oriented terms. Follow real-world conventions, making information appear in a natural and logical order
3. User control and freedom	3. Users often choose system functions by mistake and will need a clearly marked 'emergency exit' to leave the unwanted state without having to go through an extended dialogue. Support undo and redo
4. Consistency and standards	4. Users do not have to wonder whether different words, situations or action mean the same thing. Follow platform conventions

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Heuristic Rules	Usability
5. Error Prevention	5. Even better than good error message is a careful design which prevent a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit the action
6. Recognition rather than recall	6. Minimize the user's memory load by making objects, actions and options visible. Instructions for use of the system should be visible or easily retrievable whenever appropriate
7. Flexibility and efficiency of use	7. Accelerators which unseen by novice user who may often speed up the interaction for the expert user such that the system can cater to both inexperience and experienced users. Allow users to tailor frequent actions
8. Aesthetic and minimalist design	8. Dialogues shouldn't contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility. Visual layout should respect the principles of contrast, repetition, alignment and proximity
9. Help users recognize, diagnose and recover from errors	9. Error message should be expressed in plain language (no codes) precisely indicate the problem and constructively suggest a solution
10. Help and documentation	10. Any such information will be easy to search, focused on user's task, list concrete steps to be carried out and not be too large

For the sake of developing a more interesting internet contents for the users, the dull websites should be improved and enhanced. Therefore, this project is brought out in order to provide a better understanding and net-surfing atmosphere for the viewers.

1.2 Problem Statement

Most of the webpage found online are inconvenience and not well-planned. The webpage are usually very boring and not attractive to users. These make users lost interest to continue their search for travelling information in a short time. Besides, it is true that any information is available to be searched online. However, sometimes it's hard to find a webpage that contains full and packed information of what is wanted. Usually, users have to search more than one page in order to collect all of the needed information. This is because users are not able to find a single page that is packed with the needed information. Thus, users have to use up a lot of time searching for few webpage at the same time only for a single topic. In order to make it be more convenience for Internet users, a webpage that comprises of ample data and information under a specific topic must be developed.

1.3 Objectives

This project embarks the following objectives:

- a. To enhance the Tour Guide Webpage for Kinta Tour Guide Webpage.
- b. To utilize the Heuristic rules of Human Computer Interaction (HCI) by Jacob Nielsen.
- c. To verify the effectiveness of the project by bringing out random survey using survey form.

1.4 Scopes

- a. Enhancement of Kinta Tour Guide Webpage for Ipoh Tourism by using Jacob Nielsen's Heuristic Rules of HCI.
- b. The software used for the Enhancement of Kinta Tour Guide Webpage for Ipoh Tourism is Microsoft Visual Web Developer 2010 Express. There will be various languages applied using Microsoft Visual Web Developer 2010 Express which

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consists of HyperText Markup Language (HTML), Cascading Style Sheet (CSS), JavaScript language, JQuery, and ASP.Net.

- c. Most of the users of the Kinta website are UMP students.

1.5 Deliverables

- a. Enhancement of the tour guide webpage for Kinta Tour Guide Webpage.
- b. The Heuristic rules of Human Computer Interaction (HCI) by Jacob Nielsen applied in the Kinta Tour Guide Webpage.
- c. Result of the survey form.

1.6 Thesis Organization

This thesis consists of four (4) chapters. Chapter 1: Introduction briefly describes and introduces the system. This system preliminary shows the basic concept of the system, problem statements of the system, objectives, scopes, and how the report is organized. Chapter 2: Literature Review depicts the manual systems and the existing systems as the case studies of the project. This chapter also reviews the technique, method, equipment, and technology that had been used in the case studies. Chapter 3: Methodology discusses about the overall workflow in the development of the project. This chapter also discusses the method, technique or approach that has been used while designing and implementing the project. Chapter 4: Conclusion briefly summarizes the project.

CHAPTER 2

LITERATURE REVIEW

Over the years, computers and programs have become easier to use. Computer programs have become more user friendly, taking advantage of user friendly design. Minimal mouse clicks are only part of the picture to increase the computing experience. Cleaner, less cluttered “work spaces” for software is the heart of HCI. HCI is an acronym for Human Computer Interaction. It is a very wide discipline which studies all the elements linked to the human use of computers and software. It also concerns devices which can be linked to computers such as video terminals, mobile devices and computerised consoles. The main aim of HCI is to make the use of software and computerised devices as simple and easy to understand as possible, with the aim of improving the efficiency and effectiveness of the actions taken at the same time. This project covers the application of Heuristic Rules for usability evaluation.

2.1 Survey on the existing system of Ipoh Tourism webpage

The website of Ipoh Destination Guide [11] is the selected Ipoh Tourism webpage for evaluation and will be innovated in the project. The project contains a few weaknesses which need some improvement using Heuristic Rules. The parts which are needed to be upgraded are being shown in the images within the following paragraphs, along with the descriptions.

Figure 2.1.1 shows the header of the website which may confuse the visitors' thought that came from foreign countries. The main title above is stated as 'Destination Guide Ipoh' but the picture above is showing the city of Kuala Lumpur. Hence once the foreigners view the page, foreigners will imagine that the city shown in the picture is the Ipoh City. Kuala Lumpur City's picture is at the top of the page and the picture shown will definitely misleading the first thought of the viewers. A photo represents a thousand words, so the photos placed in the webpage should be chosen carefully. At least, the image shown in the banner should be changed to the pictures of the view of Ipoh City.



Figure 2.1.1: Ipoh Tourism Banner

The Figure 2.1.2 shows one of the parts within the webpage. The content is full with text and words and it is boring for the viewers. Actually the content shown above is the most important part of the page as it introduces the tour sites within the area of Ipoh. The problem is that the elaboration and explanation written is inadequate and unattractive. It is too simple and only one photo about Kellie's Castle is presented. In addition to that, the photo is not interesting and dull. The photo shown should be the overview of the whole building structure for a clearer image of Kellie's Castle. Besides that, the picture of others tourism places introduced in the content also should be presented too. In other words, words and photos should be at a balance within a page.

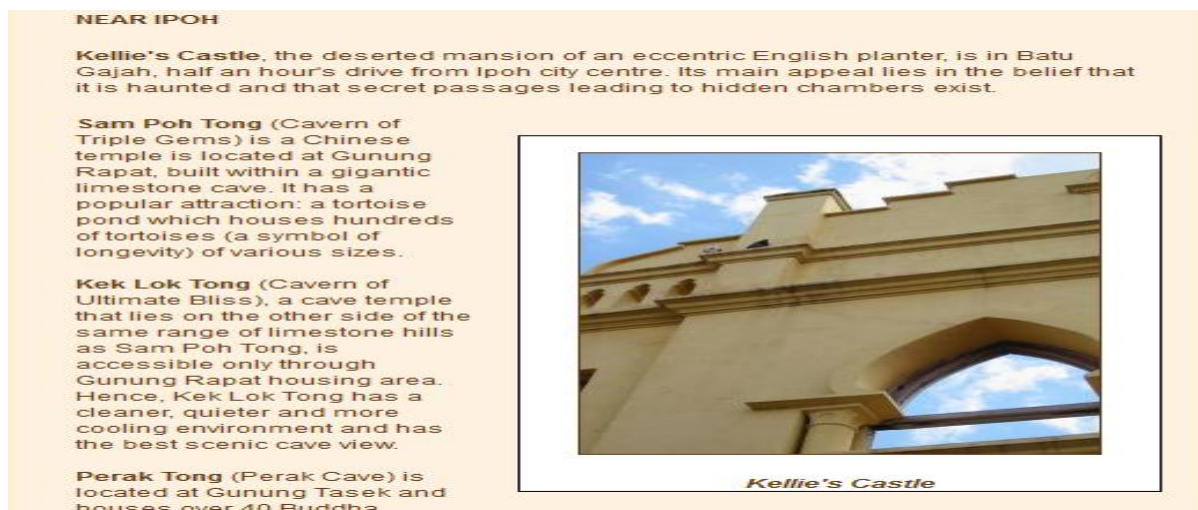


Figure 2.1.2: Ipoh Tourism Destination

The Figure 2.1.3 shows one of the parts within the webpage. The content is about the interesting getaways near the Ipoh area. The content of this part is obviously too plain and dull. The content contains too many words and makes viewers feel boring. Hence, every viewer will definitely will lose enthusiasms on the contents. The places introduced should be attached with photos too or at least some interesting images related to the pages.

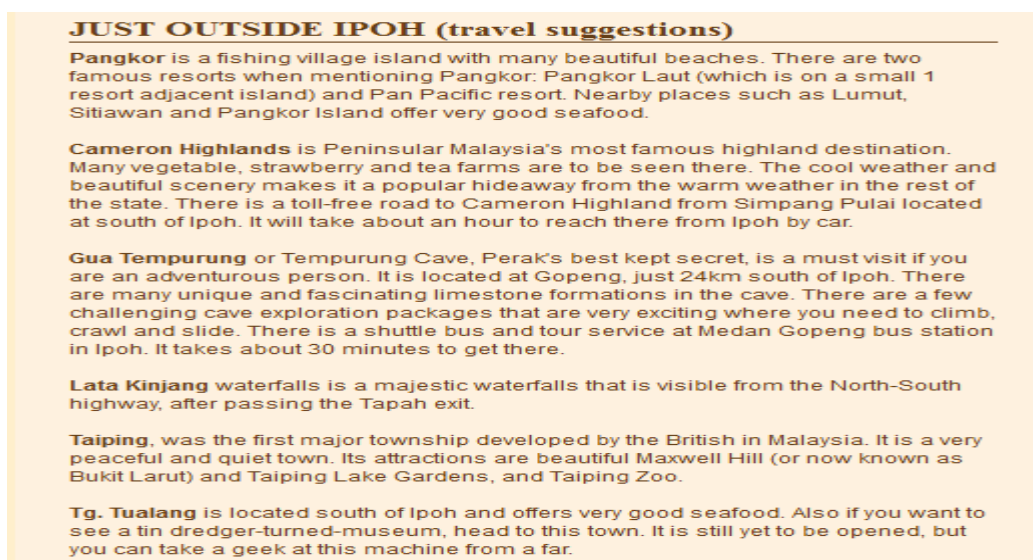


Figure 2.1.3: Ipoh Tourism Travel Suggestion

The Figure 2.1.4 shows a part of the webpage which is a system created for the ease of viewers. There are a series of contents in the menu of 'Jump to Section'. The viewers just have to click what viewers want according to the menu and the navigator will lead viewers straight jump to the attached content. However, the navigation used contains a weakness. All of the contents are packed within the same page, making the page too long. For example, when the viewer wants to know the routes of Ipoh, the viewer can click the 'Direction of Ipoh' button in the menu and the navigation used will lead to the attached content but the content is still within the same webpage. The content is better to have a specific page for a specific section. For instant, when a viewer clicks a selected title in the menu, the navigation used will lead the viewer to another page that is only packed with the related information and images. When every section has its own page, then more information related to the specific title can be presented in the page and would not make it like a mixture of different components. Whenever a viewer wants to get out from the page, the viewer just has to close the page and straight back to the main menu for other subtitles. This will make the webpage looked more systematic and packed with relevant information.

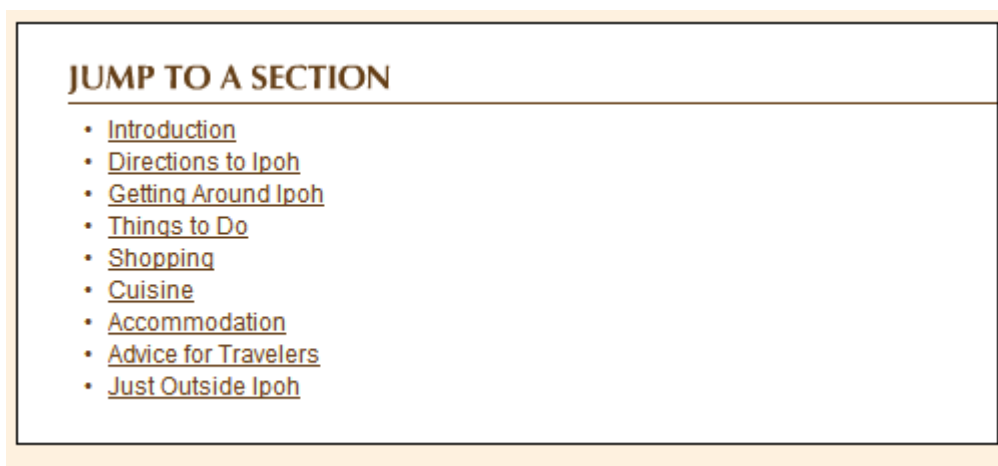


Figure 2.1.4: Ipoh Tourism Section's List

The most important thing in a passage is the introduction of the whole story. The Figure 2.1.5 is the part of introduction within the webpage. The first impression given to the viewers is 'dull'. The background colour and the font colour unmatched, unattractive borders and word is too much for a tourism introduction page. Even the photo shown is not enough to be an attention getter. Background colour, font colour and borders should be designed creatively to make viewers feel that the page is worth